Healthiest Wisconsin 2020 Baseline and Health Disparities Report

Technical Notes

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I. Statistical methods

Crude rates

Crude rates help to make comparisons of the relative frequency of events between populations of differing sizes. A crude rate is calculated by dividing the number of events that occur in a group by the population size of that group. These rates are usually expressed in reference to a certain population number (e.g., rate per 100,000), particularly when the event is rare.

Age-adjusted rates

Age adjustment is the application of age-specific rates in a population of interest to a standardized age distribution. It enhances the comparability between populations by controlling for the effects of their differing age compositions. The age-adjusted rate for a population of interest can be compared to that of a different population at the same point in time or the same population at a different point in time, assuming that the age-adjustment method used in both calculations was the same. Age-adjusted rates in this report were calculated using the direct method based on the year 2000 U.S. standard population. For more information, see: http://www.cdc.gov/nchs/data/statnt/statnt20.pdf.

In the analysis of Behavioral Risk Factor Survey (BRFS) data, age-adjusted estimates were calculated for the following population stratifications: (1) race/ethnicity; (2) household income; (3) level of education; and (4) level of urbanization. The remaining population groups (sex, age, disability status, and sexual orientation) either did not have considerably different age compositions or were age-specific. Not all BRFS indicators were age-adjusted, either because they pertained to a specific age group (e.g., fall-related injuries among adults 45+) or because the outcome was not influenced by age (e.g., exposure to tobacco smoke at home).

### Confidence intervals and statistical significance

The BRFS, like all surveys, selects and obtains information from a sample of a larger population in order to estimate population-level percentages. Due to sampling variation, different samples taken from the same population at the same time will not yield exactly the same estimates. This means that estimates derived from a sample always have some degree of uncertainty.

The mathematical principles of statistical theory can be applied to survey design and sampling, observation weighting, and calculating estimates. This allows us to know, with some specific level of confidence, how large the degree of uncertainty around an estimate is. This is a confidence interval (CI). The confidence interval or amount of uncertainty is then measured as, for example, some range of percentage points around an estimated percentage; some plus-or-minus number of points. A common level of confidence used in survey research is 95%. This means that typically 95 of 100 different

samples from the same population will produce an estimate within a calculated confidence interval around one sample's estimate.

In this report, statistical significance is based on whether the confidence intervals of two corresponding estimates overlap. Small confidence intervals indicate less uncertainty around an estimate, which makes the estimate more precise. When confidence intervals overlap, we cannot be sure that difference between the estimates is not due just to sampling variability. When CIs do not overlap, then we can say there is likely to be a statistically significant difference between the estimates.

For each estimate shown in this report, a 95% confidence interval was calculated and is depicted as an error bar. The example figure at right includes the CI for each estimate. The confidence intervals do not overlap; the difference between the two estimates is likely to be statistically significant.
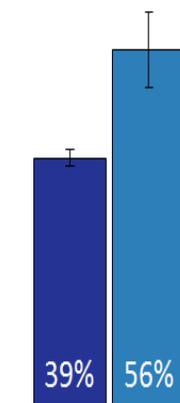
Reliability of survey estimates

Small sample sizes may produce unstable estimates. Previously, the Centers for Disease Control and Prevention (CDC) recommended that BRFS estimates not be reported if based on a denominator of fewer than 50 respondents (unweighted sample), or if the half-width of the 95% confidence interval is greater than 10. More recently, CDC has begun using the Relative Standard Error (RSE) of an estimate as an indicator of reliability. RSE is calculated as the standard error of the estimate divided by the estimate itself, times 100, and is expressed as a percentage. The cutoff for reliability using RSE is 30% for federal health surveys.

In this report, estimates were not reported where the RSE was greater than 30% or the denominator consisted of fewer than 50 respondents from an unweighted sample. While estimates with large confidence intervals may be included in this report, they should be interpreted with caution if the CI half-width exceeds 10%.

II. Primary data sources

Primary analyses were conducted on the following data sources. Data used from sources not listed below came from other reports, web-based data query tools, and other sources in which analysis was conducted externally to the team preparing the report.

Wisconsin Interactive Statistics on Health (WISH)
http://www.dhs.wisconsin.gov/wish/

WISH provides information about health indicators (measures of health) in Wisconsin. WISH allows policy makers, health professionals, and the public to submit questions (requests for data) and receive answers (tables) over the Internet. To construct answers to questions, WISH uses protected databases containing Wisconsin data from a variety of sources. Most modules contain data for multiple years and geographic areas.

In the WISH Infant Mortality and Percent of Births to Teens modules, the rates, percents, and confidence intervals are suppressed when the denominator value (total births) is less than 20.

Behavioral Risk Factor Survey (BRFS)
http://www.dhs.wisconsin.gov/wish/main/BRFS/BRFSHome.htm
http://www.cdc.gov/brfss/
http://www.dhs.wisconsin.gov/wish/main/BRFS/ConfidenceIntervals.htm;

The Wisconsin Behavioral Risk Factor Survey is an annual, statewide telephone survey of non-institutionalized adults age 18 and older. The Wisconsin BRFS is part of the national Behavioral Risk Factor Surveillance System (BRFSS), a collaboration between the U.S. Centers for Disease Control and Prevention (CDC) and health departments in all states and U.S. territories. BRFSS is state-based and does not have a separate national sample. National BRFSS estimates are the medians of state and territory BRFS estimates. BRFSS currently uses samples of both landline and cell phone numbers.

Datasets used in this report
Estimates used in this report were calculated from two multi-year datasets: 1) 2009-2011 landline-cellphone combined dataset, and 2) 2008-2011 landline-only dataset. The 2009-2011 landline-cellphone combined dataset was used for calculating estimates for the total adult population, by sex, and by age group. The 2008-2011 landline-only dataset was used for calculating estimates by race/ethnicity, household income, level of education, level of urbanization, disability status, and sexual orientation.

The addition of cell phone sampling will ultimately provide better population estimates as cell phone use increases. However, due to the recent implementation of this sampling strategy, estimates were not available for state-added supplemental questions, such as sexual orientation. The use of the combined landline-cellphone dataset was intended to provide estimates that can be used as a baseline for future comparisons, while the landline-only dataset provides estimates for comparisons across population groups.

Weighting
CDC weights BRFSS data files to state and territory adult population characteristics so that population-level estimates may be calculated. Prior to 2011, CDC weighted

BRFSS data files using post-stratification. In 2011, CDC adopted a new methodology, iterative raking, which allows the use of more demographic characteristics in calculating weights than did the previous methodology.

BRFS data in this report for the years 2008-2010 were weighted using preliminary versions of the new weighting methodology. CDC continued to make minor adjustments to the methodology during that three-year period. The 2010 weighting is closest to the final version released for 2011, the first official release of the new weighting methodology and combined cellphone-landline BRFS data. Minor differences exist in the raking methodology for the two earlier years, 2008 and 2009.

Sample design
As of 2011, BRFS conducts both landline and cellphone interviews using separate sampling strategies. Combined landline and cell phone data are being phased in as multiple years of jointly weighted data become available from CDC. In the interim, it should be kept in mind that certain prevalence estimates calculated from pre-2011 data may be affected by the absence of cell phone interview data. See the CDC BRFSS website (http://www.cdc.gov/brfss/) for more information about combined landline/cell phone data and 2011 changes to the BRFSS weighting methodology.

The Wisconsin BRFS landline sample design is a stratified random sample based on Department of Health Services regions, county population size and, in some instances, the demographic composition of geographic areas. Weighted BRFS landline data files represent the adult population (ages 18+) living in households with a landline telephone. The landline sample excludes people living in institutions and other group quarters. Currently, cell phone interviews are conducted with individuals reached at a personal cell phone number, and who either do not have a landline number or receive 90% of calls at their cell phone number. Landline and cell phone interview data are combined and weighted jointly to represent the state's adult, non-institutionalized population.

Youth Risk Behavior Survey (YRBS)
http://sspw.dpi.wi.gov/sspw_yrbsindx
http://www.cdc.gov/HealthyYouth/yrbs/index.htm

The Youth Risk Behavior Surveillance System, of which the Wisconsin Youth Risk Behavior Survey is a part, is a school-based survey conducted among students in grades 9-12 in public high schools. The Youth Risk Behavior Survey (YRBS) has both national and state samples. The state and national samples are separate, and in some cases, schools may be selected as part of both samples. The YRBS is conducted every two years in odd-numbered years. The Wisconsin Department of Public Instruction (DPI) oversees the administration of the Wisconsin YRBS.

Sampling for the state YRBS follows a two-stage cluster design. Schools are selected as clusters using probability proportional to size, and classes are randomly selected within schools from among required subjects or time periods. Sampling for the national YRBS is a three-stage procedure, with counties and groups of counties as the first stage. http://www.dhs.wisconsin.gov/publications/P4/P45718-12.pdf (page 96)

Dataset used in this report

The YRBS estimates used in this report were calculated from a three-year aggregated dataset from 2007, 2009, and 2011. Three years of data were combined in order to provide statistically reliable estimates for population groups.

Family Health Survey
http://www.dhs.wisconsin.gov/stats/familyhealthsurvey.htm

The Wisconsin Family Health Survey (FHS) is a telephone survey of Wisconsin households, designed to provide estimates of health care coverage, various health problems and use of health care services among people across the state. The adult in each household who knows the most about the health of all household members is selected to answer all survey questions during the telephone interview. This respondent answers survey questions for him/herself as well as for all other household members.

Dataset used in this report
Family Health Survey estimates used in this report were calculated from a three-year aggregated dataset spanning 2008 to 2010. Three years of data were combined in order to provide statistically reliable estimates for population groups.

For details on FHS sample design and methodology:
http://www.dhs.wisconsin.gov/publications/p4/p45369.pdf

Pregnancy Risk Assessment Monitoring System (PRAMS)
http://www.dhs.wisconsin.gov/births/prams/
http://www.cdc.gov/prams/

The Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing survey of new mothers conducted jointly by the CDC and state health departments. In each participating state, PRAMS collects population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. Wisconsin began participating in PRAMS in 2007.

Dataset used in this report
The PRAMS estimates used in this report were calculated from a three-year aggregated dataset from 2009 to 2011. Three years of data were combined in order to provide statistically reliable estimates for population groups.

For details on PRAMS sample design and methodology:
http://www.cdc.gov/prams/methodology.htm

American Community Survey (ACS)
http://www.census.gov/acs/

The American Community Survey (ACS) is an ongoing statistical survey administered by the U.S. Census Bureau that provides information on the American population and housing characteristics. Depending on population size, data are released in 1-year, 3-year and 5-year datasets. The multi-year ACS data used in this report show results that are the average for the time period, rather than being from the mid-point of the time period.

Health Professional Shortage Areas

The federal Office of Shortage Designation identifies areas or populations that have a shortage of dental and mental health care providers. Maps show the number of full-time equivalent (FTE) dentists (2009) and psychiatrists (2011) it would take to eliminate a significant shortage of these professionals. Data limitations regarding shortages of psychiatrists are described here:
http://www.dhs.wisconsin.gov/publications/P0/P00376.pdf and limitations regarding shortages of dentists are described here:
http://www.dhs.wisconsin.gov/publications/p0/p00368.pdf.

III. Variable definitions by data source

Race/Ethnicity (BRFS, YRBS, FHS, PRAMS) — Five categories were constructed from the survey questions: White, Black, Hispanic, Asian, and American Indian. The White, Black, Asian, and American Indian categories are non-Hispanic. The Asian category combines Asian, Native Hawaiian, and other Pacific Islander. For the PRAMS data, the sample size was too small to report estimates for Asians and American Indians and they were grouped in a category called "Other."

Income

Household income (BRFS) —In the BRFS analysis, three categories were constructed from the survey question regarding household income: "Low income (<$20,000)," "Middle income ($20,000-$74,999)," and "High income ($75,000+)."

Typically, 9% to 12% of BRFS respondents indicate that they don't know, or are unwilling to report, their household income. (Source: Wisconsin Department of Health Services, Office of Health Informatics. Behavioral Risk Factor Survey Module Definitions of Survey Measures. http://www.dhs.wisconsin.gov/wish/main/BRFS/definitions.htm)

Poverty status (FHS) —The relationship between the number of people in a household and the annual income of that household determines the poverty status. In the FHS

analysis, several questions are asked regarding household income during the calendar year prior to the survey. Current household size was used to determine whether a household income was below the federal poverty guideline. For more information, please refer to: http://www.dhs.wisconsin.gov/publications/p4/p45369.pdf (technical notes)

Maternal income (PRAMS) — In the PRAMS analysis, responses to the question on maternal income were divided into three categories: <$10,000; $10,000-$49,999; and $50,000+.

Education

Education (BRFS) — In most chapters of the report, household income is graphed instead of education. Population estimates by level of education often are similar to population estimates by household income. Educational attainment of BRFS respondent was categorized as "Less than high school," "High school graduate to some college," and "College graduate or more."

Maternal education (PRAMS) — In the PRAMS analysis, responses to the question on maternal education were divided into three categories: "<High school," "High school graduate," and "Some college or college graduate."

Geography

County classifications (BRFS, FHS) — The 2006 National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties classifies all U.S. counties and county equivalents into six levels: four for metropolitan counties and two for nonmetropolitan counties (see http://www.cdc.gov/nchs/data_access/urban_rural.htm).

For ease of interpretation in this report, these six classifications were consolidated into three categories: "Large Metropolitan, central," "Smaller metropolitan," and "Non-metropolitan." In Wisconsin, Milwaukee County is the only county that is classified as "Large metropolitan, central" and therefore is labeled throughout the report simply as Milwaukee County.

There were 24 smaller metropolitan counties and 47 non-metropolitan counties.

Table 1. NCHS Urban–Rural Classification Scheme for Counties, 2006

Milwaukee County	
Large metropolitan, central	Counties in MSA of 1 million or more population that: 1) contain the entire population of the largest principal city of the MSA, or 2) are completely contained within the largest principal city of the MSA, or 3) contain at least 250,000 residents of any principal city in the MSA
Smaller metropolitan	
Large metropolitan, fringe	Counties in MSA of 1 million or more population that do not qualify as large central
Medium metropolitan	Counties in MSA of 250,000–999,999 population
Small metropolitan	Counties in MSA of 50,000–249,999 population
Non-metropolitan	
Micropolitan	Counties in micropolitan statistical area
Noncore	Counties not in micropolitan statistical area
Source: 2006 National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. http://www.cdc.gov/nchs/data_access/urban_rural.htm. Note: MSA = Metropolitan Statistical Area	

Table 2 below lists all Wisconsin counties (other than Milwaukee) as either a smaller metropolitan county or a non-metropolitan county. This information is also depicted in a map in the Demographic Overview chapter.

Table 2. Wisconsin counties (other than Milwaukee) by metro/nonmetro status

Smaller metropolitan counties		Non-metropolitan counties			
Brown	Marathon	Adams	Forest	Marinette	Sawyer
Calumet	Oconto	Ashland	Grant	Marquette	Shawano
Chippewa	Outagamie	Barron	Green	Menominee	Taylor
Columbia	Ozaukee	Bayfield	Green Lake	Monroe	Trempealeau
Dane	Pierce	Buffalo	Iron	Oneida	Vernon
Douglas	Racine	Burnett	Jackson	Pepin	Vilas
Eau Claire	Rock	Clark	Jefferson	Polk	Walworth
Fond du Lac	Saint Croix	Crawford	Juneau	Portage	Washburn
Iowa	Sheboygan	Dodge	Lafayette	Price	Waupaca
Kenosha	Washington	Door	Langlade	Richland	Waushara
Kewaunee	Waukesha	Dunn	Lincoln	Rusk	Wood
La Crosse	Winnebago	Florence	Manitowoc	Sauk	

Disability status — In the BRFS, living with a disability is defined by responding affirmatively to at least one of two questions:

- Are you limited in any way in any activities because of physical, mental, or emotional problems?
- Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone? (Includes occasional use or use in certain circumstances.)

Sexual orientation (BRFS, YRBS) — The Wisconsin BRFS asks respondents their sexual orientation. Respondents who identified themselves as gay, lesbian, or bisexual are referred to in the survey results as sexual minority; heterosexual respondents are referred to as sexual majority.

In the YRBS, high school students are asked whether they have had sexual contact with males, females, both, or neither. Students with same-sex contact, including those who have also had opposite-sex contact, are referred to as sexual minority students. Those with only opposite-sex contact are referred to as sexual majority students. (The 40% of students who have not had sexual contact are excluded from this analysis.) Starting in 2011, the Wisconsin YRBS asks students about sexual orientation; however, results based on this question were not analyzed for this report because of the small sample size.

Data on transgender youth and adults is not available in the data sources included in this report.

Sample Sizes

Note: The numbers in Table 3 are based on the largest possible sample size for the corresponding dataset. For many of the questions asked, the sample sizes are much smaller either because the question is not asked every year, because some responses are excluded (e.g., "don't know"), or because of non-response. The years the questions were asked are noted on the graphs in each chapter.

Table 3. Sample sizes by data source

BRFS: 2008-2011 landline-only dataset	Number in sample (N)
White	17,845
Black	1,743
Hispanic	303
Asian	116
American Indian	425
Low income (<$20,000)	2,623
Middle income ($20,000-$74,999)	12,480
High income ($75,000+)	3,411
Less than high school	1,577
High school graduate to some college	13,541
College graduate or more	5,780
Milwaukee County	3,891
Smaller metropolitan counties	7,402
Nonmetropolitan counties	9,654
Disability	3,172
No disability	10,998
Sexual minority	505
Sexual majority	16,872
BRFS: 2009-2011 cell phone-landline combined dataset	Number in sample (N)
Male	6,402
Female	8,962
18-24	654
25-44	3,495
45-64	6,617
65+	4,431
YRBS: 2007, 2009, 2011 combined dataset	Number in sample (N)
White	5,490
Black	585
Hispanic	262
Asian	318
American Indian	82
Sexual minority	427
Sexual majority	3,849

Table 3. Sample sizes by data source (continued)

FHS: 2008-2010 combined dataset	Number in sample (N)
Children ages 0-17	4,319
White	15,346
Black	1,346
Hispanic	624
Asian	227
American Indian	489
Poor (<100% FPL)	1,637
Near poor (100-199% FPL)	3,009
Not poor (200% FPL or more)	13,156
Milwaukee County	4,001
Smaller metropolitan counties	9,145
Non-metropolitan counties	5,499
PRAMS: 2009-2011 combined dataset	**Number in sample (N)**
White, non-Hispanic	1,215
Black, non-Hispanic	1,184
Hispanic	625
Other	354
<$10,000	863
$10,000-$49,999	1,393
$50,000+	3,162
Less than high school	640
High school graduate	925
Some college or college graduate	237

IV. Survey questions by data source

Behavioral Risk Factor Survey (BRFS) questions used in this report

Note: Missing responses were excluded; "Don't know/Not sure" and "Refused" were reclassified as missing.

Alcohol and Other Drug Use

Binge drinking:
- During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?
- Considering all types of alcoholic beverages, how many times during the past 30 days did you have five (four for females, beginning in 2006) or more drinks on an occasion?

Heavy drinking [men who have more than two drinks per day, women who have more than one drink per day (average)]:
- One drink is equivalent to a 12-ounce beer, a 4-ounce glass of wine, or a drink with one shot of liquor. On the days when you drank, during the past 30 days, about how many drinks did you drink on the average?

Chronic Disease Prevention and Management

Cardiovascular disease:
- Has a doctor, nurse or other health professional ever told you that you had any of the following:
  … a heart attack, also called a myocardial infarction?
  … a stroke?
- Have you ever been told by a doctor, nurse or other health professional that your blood cholesterol is high?
- Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?

Diabetes:
- Have you ever been told by a doctor that you have diabetes? (If yes and respondent is female: Was this only when you were pregnant?)
- Have you ever been told by a doctor or other health professional that you have pre-diabetes or borderline diabetes?

Cancer screening:
Respondents age 50 and older were asked:
- Sigmoidoscopy and colonoscopy are exams in which a tube is entered in the rectum to view the colon for signs of health problems. Have you ever had either of these exams?

- How long has it been since you had your last sigmoidoscopy or colonoscopy?

Male respondents age 40 and older were asked:
- A Prostate-Specific Antigen test, also called a PSA test, is a blood test used to check men for prostate cancer. Have you ever had a PSA test?
- How long has it been since your last PSA test?

Female respondents were asked:
- A Pap test is a test for cancer of the cervix. Have you ever had a Pap test?
- How long has it been since you had your last Pap test?

Female respondents age 50 and older were asked:
- A mammogram is an x-ray of each breast to look for breast cancer. Have you ever had a mammogram?
- How long has it been since your last mammogram?

Arthritis:
- Have you ever been told by a doctor or other health professional that you have some form of arthritis, gout, lupus, or fibromyalgia? [Arthritis diagnoses include: rheumatism, polymyalgia rheumatic; osteoarthritis (not osteoporosis); tendonitis, bursitis, bunion, tennis elbow; carpal tunnel syndrome, tarsal tunnel syndrome; joint infection, etc.]
- Are you now limited in any way of your usual activities because of arthritis or joint symptoms?

Communicable Disease

Vaccination:
Respondents age 65 and older were asked:
- During the past 12 months, have you had either a seasonal flu shot or a seasonal flu vaccine that was sprayed in your nose?
- A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person´s lifetime and is different from the flu shot. Have you ever had a pneumonia shot?

Environmental and Occupational Health

Asthma:
- Have you ever been told by a doctor, nurse or other health professional that you had asthma?
- Do you still have asthma?

Injury and Violence

Does not always wear a seat belt:
- How often do you use seat belts when you drive or ride in a car?

Fall-related injuries:
Respondents age 45 and older were asked:

- In the past three months, how many times have you fallen?
- How many of these falls caused an injury? [Did this fall cause an injury?] By an injury, we mean the fall caused you to limit your regular activities for at least a day or to go see a doctor.

Mental Health

Frequent mental distress:
- Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

Adverse childhood experiences (ACE):
- Respondents were asked to respond whether they had these experiences before age 18 [responses that indicate occurrence of an ACE are in brackets]:
    1. Did you live with anyone who was depressed, mentally ill, or suicidal? [yes]
    2. Did you live with anyone who was a problem drinker or alcoholic? [yes]
    3. Did you live with anyone who used illegal street drugs or who abused prescription medications? [yes]
    4. Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility? [yes]
    5. Were your parents separated or divorced? [yes]
    6. How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up? [once or more than once]
    7. How often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking. [once or more than once]
    8. How often did a parent or adult in your home ever swear at you, insult you, or put you down? [once or more than once]
    9. How often did anyone at least five years older than you or an adult ever touch you sexually? [once or more than once]
    10. How often did anyone at least five years older than you or an adult try to make you touch them sexually? [once or more than once]
    11. How often did anyone at least five years older than you or an adult force you to have sex? [once or more than once]

Insufficient sleep:
- During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?

Sometimes, rarely, or never receives *emotional support*:
- How often do you get the social and emotional support you need?

Nutrition

Obesity:
Body Mass Index ≥ 30, calculated by CDC using height and weight reported in response to the following questions:
- About how much do you weigh without shoes?
- About how tall are you without shoes?

Low vegetable consumption (<2 servings per day):
- The BRFS asks respondents a series of questions about different types of vegetable consumption. This indicator is calculated based on the responses to these questions.

Oral Health

Had at least one permanent tooth removed:
- How many of your permanent teeth have been removed because of tooth decay or gum disease? Include teeth lost to infection but do not include teeth lost for other reasons, such as injury or orthodontics.

No dentist visits in past year:
- How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists.

Physical Activity

Obesity:

Body Mass Index ≥ 30, calculated by CDC using height and weight reported in response to the following questions:
- About how much do you weigh without shoes?
- About how tall are you without shoes?

Physical inactivity (did not participate in physical exercise other than at job):
- During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Reproductive and Sexual Health

Ever been tested for HIV:
- Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.

Ever been in any HIV high-risk situations:
- I am going to read you a list. When I am done, please tell me if any of the situations apply to you. You do not need to tell me which one. You have used intravenous drugs in the past year. You have been treated for a sexually transmitted or venereal disease in the past year. You have given or received money or drugs in exchange for sex in the past year. You had anal sex without a condom in the past year. Do any of these situations apply to you?

Tobacco Use and Exposure

Current smoker:
- Have you smoked at least 100 cigarettes in your entire life?
- Do you now smoke cigarettes every day, some days, or not at all?

Current menthol smoker:
- Have you smoked at least 100 cigarettes in your entire life?
- Do you now smoke cigarettes every day, some days, or not at all?
- Do you [Did you] smoke menthol cigarettes?

Smokeless tobacco user:
- Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? [Snus (Swedish for snuff) is a moist smokeless tobacco, usually sold in small pouches that are placed under the lip against the gum.]

Smoking allowed at home:
- Which statement best describes the rules about smoking inside your home: Smoking is not allowed anywhere inside your home, smoking is allowed in some places or at some times, smoking is allowed anywhere inside your home, or there are no rules about smoking inside your home?

Exposed to others' smoke at home:
- Are you exposed to other people's smoke while you are in your home?

Smoking permitted at work:
- Which of the following best describes your place of work's official smoking policy for work areas: not allowed in any work areas, allowed in some work areas, allowed in all work areas, or no official policy?

Ever tried to quit smoking:
- Have you ever stopped smoking for one day or longer because you were trying to quit smoking?

Access to Health Services

No health insurance coverage, ages 18-64:
- Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

Receive Medicaid or BadgerCare:
- Do you have health care coverage from Medicaid or Badger Care?

Did not have doctor's visit in past year:
- About how long has it been since you last visited a doctor for a routine checkup? (A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.)

Do not have personal doctor:
- Do you have one person you think of as your personal doctor or health care provider? (If no, ask "Is there more than one or is there no person who you think of as your personal doctor or health care provider?")

Unable to obtain care due to cost:
- Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

Demographic Questions

Race/ethnicity:
- Are you Hispanic or Latino?
- Which one or more of the following would you say is your race – white, black or African American, Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native?

Income:
- Is your annual household income from all sources: less than $10,000; $10,000 to <$15,000; $15,000 to <$20,000; $20,000 to <$25,000; $25,000 to <$35,000; $35,000 to <$50,000; $50,000 to <$75,000; $75,000 or more?

Education level:
- What is the highest grade or year of school you completed? Never attended school or only kindergarten, grades 1 through 8, grades 9 through 12, grade 12

or GED, college or technical school 1 year to 3 years, college 4 years or more (college graduate).

Disability Status:
- Are you limited in any way in any activities because of physical, mental, or emotional problems?
- Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone? (Include occasional use or use in certain circumstances.)

Sexual Orientation:
- Do you consider yourself to be *heterosexual*, attracted to people of the opposite sex; *gay [lesbian],* attracted to people of the same sex; or *bisexual*, attracted to people of both sexes?

Miscellaneous Questions (included in selected population chapters)

General health status:
- Would you say that in general your health is excellent, very good, good, fair or poor?

Physical health:
- Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
- During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Youth Risk Behavior Survey (YRBS) questions used in this report

Demographic Characteristics

- What is your sex?
- Are you Hispanic or Latino?
- What is your race?
- Same-sex sexual contact (combines sex of respondent and response to the question:
  During your life, with whom have you had sexual contact?) [I have never had sexual contact, Females, Males, Females and males]
- Sexual orientation
  Which of the following best describes you? [Heterosexual (straight), Gay or Lesbian, Bisexual, Not sure]

Note: Selected items were adjusted for sex, grade in school, and race/ethnicity.

Alcohol and Other Drug Use

- During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?
- Considering all types of alcoholic beverages, how many times during the past 30 days did you have five (four for females, beginning in 2006) or more drinks on an occasion? (Binge drinking)
- During the past 30 days, how many times did you use marijuana?
- During your life, how many times have you used **any** form of cocaine, including powder, crack, or freebase?
- During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high? (Inhalants)
- During your life, how many times have you used **heroin** (also called smack, junk, or China White)?

- How old were you when you had your first drink of alcohol other than a few sips?
- How old were you when you tried marijuana for the first time?

Injury and Violence

- How often do you wear a seat belt when **riding in** a car driven by someone else?
- During the past 30 days, how many times did you **ride** in a car or other vehicle **driven by someone who had been drinking alcohol**?
- During the past 30 days, how many times did you **drive** a car or other vehicle **when you had been drinking alcohol**?

- During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club **on school property**?
- During the past 12 months, how many times were you in a physical fight **on school property**?
- During the past 12 months, how many times has someone tried to hurt you by hitting, punching, or kicking you while **on school property**?

- During the past 12 months, have you ever been bullied **on school property**?
- Do you agree or disagree that violence is a problem at your school?
- Do you agree or disagree that harassment and bullying by other students is a problem at your school?

- During the past 30 days, on how many days did you **not** go to school because you felt you would be unsafe at school or on your way to or from school?
- During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club **on school property**?
- When you are at school, how often do you feel safe from physical harm?

- During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
- Have you ever been forced, either verbally or physically, to take part in a sexual activity?

Nutrition

Overweight is defined as Body Mass Index (BMI) ≥25, and obese is defined as BMI ≥30, both calculated by CDC using height and weight reported in response to the following questions:
- How tall are you without your shoes on? (Feet and inches)
- How much do you weigh without your shoes on? (Pounds)
- Which of the following are you trying to do about your weight? (Lose weight, gain weight, etc.)
- During the past seven days, how many times did you eat **fruit**? (Do **not** count fruit juice.)
- During the past seven days, how many times did you eat vegetables such as green salad, carrots, green beans, or other vegetables? (Do **not** count potatoes.)
- During the past seven days, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **not** count diet soda or diet pop.)

Physical Activity

The first three items in Nutrition (overweight, obese, and trying to lose or gain weight) are also included in the Physical Activity chapter.

- During the past seven days, on how many days were you physically active for a total of **at least 60 minutes per day**? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)
- In an average week when you are in school, on how many days do you go to physical education (PE) classes?
- On an average school day, how many hours do you watch TV?
- On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod touch, Facebook, and the Internet.)

Mental Health

- During the past 12 months, did you ever feel so sad or hopeless almost every day for **two weeks or more in a row** that you stopped doing some usual activities?
- During the past 12 months, did you ever **seriously** consider attempting suicide?

- During the past 12 months, did you make a plan about how you would attempt suicide?
- During the past 12 months, how many times did you actually attempt suicide?
- **If you attempted suicide** during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
- Do you agree or disagree that your teachers really care about you and give you a lot of encouragement?
- Do you agree or disagree that you feel like you belong at this school?
- Do you agree or disagree that your family loves you and gives you help and support when you need it?
- During the past 12 months, how would you describe your grades in school? (Mostly A's, Mostly B's, etc.)

Reproductive and Sexual Health

- Have you ever had **sexual intercourse**?
- How old were you when you had sexual intercourse for the first time?
- During the past three months, with how many people did you have sexual intercourse?
- During your life, with how many people have you had sexual intercourse?

Tobacco

- Have you ever tried cigarette smoking, even one or two puffs?
- How old were you when you smoked a whole cigarette for the first time?
- During the past 30 days, on how many days did you smoke cigarettes?
- Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?

- During the past 30 days, on how many days did you use **chewing tobacco, snuff, or dip,** such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
- During the past 30 days, on how many days did you smoke **cigars, cigarillos, or little cigars**?

Family Health Survey (FHS) questions used in this report

Current insurance coverage for children age 0-17 is determined through several questions asking about specific types of health insurance coverage and age of household members. Please refer to the Technical Notes of the 2010 *Wisconsin Health Insurance Coverage* report for more details: http://www.dhs.wisconsin.gov/publications/p4/p45369.pdf

Emergency room utilization:
- In the past 12 months, who in your household has been treated at a hospital emergency room?

Demographics

Race/ethnicity:
- Including you, who else/who in your household is Hispanic or Latino?

After that, several questions are asked about race of the respondent and household members. The "newrace" variable is constructed based on the responses to these questions. Please refer to the Technical Notes of the 2010 *Wisconsin Health Insurance Coverage* report for details: http://www.dhs.wisconsin.gov/publications/p4/p45369.pdf

Poverty status:
Poverty status is determined through several questions asking about household income and size of household. Please refer to the Technical Notes of the 2010 *Wisconsin Health Insurance Coverage* report for details: http://www.dhs.wisconsin.gov/publications/p4/p45369.pdf

Pregnancy Risk Assessment Monitoring System (PRAMS) questions used in this report

Pregnancy intention
- Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant? [Check one answer]
  - I wanted to be pregnant sooner (intended)
  - I wanted to be pregnant later (unintended)
  - I wanted to be pregnant then (intended)
  - I didn't want to be pregnant then or at any time in the future (unintended)

Drank alcohol during pregnancy
- During the last three months of your pregnancy, how many alcoholic drinks did you have in an average week? (Number categories have been converted to yes and no answers.)

Smoked during pregnancy
- In the last three months of your pregnancy, how many cigarettes did you smoke on an average day? (Number categories have been converted to yes and no answers.)

Smoked post-partum
- How many cigarettes do you smoke on an average day now? (Number categories have been converted to yes and no answers.)

Initiated breastfeeding
- Did you ever breastfeed or pump breast milk to feed your new baby after delivery, even for a short period of time? (yes/no)

Demographics

Race/ethnicity: Collected on the infant's birth certificate, not in PRAMS.

Maternal income:
- During the 12 months before your new baby was born, what was your yearly total household income before taxes? (Less than $10,000, $10,000 to $14,999, etc.)

Maternal education: Collected on the infant's birth certificate, not in PRAMS.

V.   Glossary and terminology

Alcohol and Other Drug Use

Alcoholic liver disease mortality is one of the 113 categories of underlying causes of death grouped by the National Center for Health Statistics. These 113 categories are consolidated from the tenth revision of the International Classification of Diseases (ICD-10) coding structure.

http://www.dhs.wisconsin.gov/wish/measures/mortality/long_form_detail.html

Chronic Disease Prevention and Management

Cardiovascular disease: *Coronary heart disease* (also called coronary artery disease) is a narrowing of the small blood vessels that supply blood and oxygen to the heart. *Congestive heart failure* describes a disorder in which the heart is unable to sufficiently and efficiently pump blood through the body, and may be caused by coronary heart disease. A *stroke* happens when blood flow to a part of the brain stops, preventing the passage of blood and oxygen and resulting in brain cell death.

Diabetes: *Type 2 diabetes* usually begins with insulin resistance, a condition linked to excess weight in which cells do not use insulin properly. As a result, the body requires more insulin to help glucose enter cells. Initially, the pancreas produces more insulin to meet the additional demand; however, it eventually loses its ability to produce enough insulin, and blood glucose levels rise. High blood glucose damages nerves and blood vessels, leading to problems such as heart disease, stroke, kidney disease, blindness, dental disease, and amputations. Other problems of diabetes may include increased risk of getting other diseases, loss of mobility with aging, depression, and pregnancy problems.

Hospitalization data for diabetes-related morbidity are based on Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQI). Wisconsin Inpatient Hospitalization Discharge data for 2010 were used to obtain numbers of hospitalization discharges for all population groups for each of the four AHRQ diabetes measures. Age-adjusted hospitalization rates are excluded for <50 cases.

- AHRQ PQI #1: Diabetes Short-Term Complications (Number of Hospitalizations and Age-adjusted Admission Rate), 2010
- AHRQ PQI #14: Uncontrolled Diabetes (Number of Hospitalizations and Age-adjusted Admission Rate), 2010
- AHRQ PQI #3: Diabetes Long-Term Complications (Number of Hospitalizations and Age-adjusted Admission Rate), 2010

- AHRQ PQI #16: Lower-Extremity Amputation Among Patients with Diabetes (Number of Hospitalizations and Age-adjusted Admission Rate), 2010

For more information:
http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V43/Composite_User_Technical_Specification_PQI_4.3.pdf.

End-Stage Renal Disease Data: The United States Renal Data System (USRDS) Renal Data Extraction and Referencing (RenDER) System online tool was used to obtain 2009 raw incidence numbers of end-stage renal disease for age groups 0-34 years, 35-44 years, 45-54 years, 55-64 years, and 65+ years in persons with diabetes listed as the primary diagnosis. Incidence is defined as the number of new cases within a specified time period (usually a year). It is not the total number of cases at a point in time (this is prevalence). Data were obtained for the overall population, as well as by sex and by race/ethnicity. Race and ethnicity groups include: Non-Hispanic White, Non-Hispanic Black, and Hispanic/Latino. Population estimates were obtained from the Wisconsin Interactive Statistics on Health (WISH). Raw numbers were divided by applicable population estimates to determine age-specific rates. Age-specific rates were age-adjusted (direct method) to the 2000 United States standard population. Age-adjusted rates were not calculated when the denominator was less than 50.

The data reported here have been supplied by the United States Renal Data System (USRDS). The interpretation and reporting of these data are the responsibility of the author(s) and in no way should be seen as an official policy or interpretation of the U.S. government. Source: U.S. Renal Data System, USRDS 2009 Annual Data Report: Atlas of End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2009.

Cancer: Cancer rates represent newly diagnosed cases of cancer per 100,000 population (incidence) or cancer deaths per 100,000 population (mortality) during the specified time period. Rates were suppressed if they were based on fewer than 10 cases. Data for cancer cases (incidence) and deaths (mortality) were for the most recent years available at the time this report was prepared. The incidence and mortality racial groups include both Hispanics and non-Hispanics. Similarly, the two Hispanic categories (Hispanic and non-Hispanic) include all races.

Cancer screening: To prevent colorectal cancer, regular screening is recommended beginning at age 50. Colonoscopies are recommended once every 10 years and sigmoidoscopies are recommended once every five years. [Centers for Disease Control and Prevention. Colorectal Cancer Screening Guidelines. http://www.cdc.gov/cancer/colorectal/basic_info/screening/guidelines.htm]

The prostate-specific antigen (PSA) test is generally recommended annually for men beginning at age 50, and at age 40 or 45 for men who are at higher risk, such as those with family history or those who are Black. [National Cancer Institute. Prostate-Specific Antigen (PSA) Test. http://www.cancer.gov/cancertopics/factsheet/detection/PSA] Note: Screening recommendations are subject to change as more has been learned

about the benefits and harms of routine screening; for example, PSA testing is increasingly considered optional.

Cervical cancer is the easiest female cancer to prevent with regular screening. Nearly all cervical cancer is caused by an infection with certain types of the human papillomavirus (HPV). The Pap test is recommended every three years for women ages 21-65 or every five years if HPV and Pap co-testing. [National Cancer Institute. Pap and HPV testing. http://www.cancer.gov/cancertopics/factsheet/detection/Pap-HPV-testing]

Women ages 40+ should receive a mammogram every 1-2 years in order to screen for breast cancer. [National Cancer Institute. Mammograms. http://www.cancer.gov/cancertopics/factsheet/detection/mammograms]

Communicable Disease

Influenza: Race groups include Hispanics (very small numbers). Hospitalizations include out-of state residents hospitalized in Wisconsin and Wisconsin residents who go to out-of-state hospitals (very few cases).

Environmental and Occupational Health

Hospitalization data for this chapter include hospitalizations in which asthma was listed as the principal diagnosis (ICD-9-CM 493.00 – 493.92). Hospitalization data consist of combined Wisconsin-Minnesota files (all Wisconsin residents who were hospitalized in Wisconsin or Minnesota). Values reflect the number of hospitalizations, not the number of individuals hospitalized or with emergency department visits due to asthma.

Confirmed elevated blood lead level (EBLL): A child with one venous blood specimen ≥10 micrograms/deciliter (mcg/dL), or any combination of two capillary and/or unknown blood specimens ≥10 mcg/dL drawn within 12 weeks of each other.
- *Test:* Number of unduplicated children with a capillary or venous blood lead test. If a child has a venous test within three months after a capillary test, the data from the venous test are included in this report.
- *Poisoned:* A capillary or venous BLL >10 mcg/dL. If the test is a capillary sample followed within three months by a venous test, the value of the venous test is used.
- *Case:* One venous BLL >20 mcg/dL or two venous BLLs >15 mcg/dL drawn at least 90 days apart; includes both new cases and those identified in a previous calendar year.
- *Prevalence:* Number of poisoned children divided by the number of children tested; indicates the total identified burden of lead poisoning in a community.
- *Medicaid and WIC Enrollment*: A child is counted if they were identified as enrolled in either program at any point during the calendar year.

Healthy Growth and Development

Definitions of measures used in birth-related modules in WISH are described here:
http://www.dhs.wisconsin.gov/wish/main/shared/MeasuresInBirthModules.htm

Injury and Violence

Motor vehicle crashes include crashes involving automobiles, vans, trucks, motorcycles, and other motorized cycles known or assumed to be traveling on public roads or highways. The injuries may be sustained by a passenger or driver, or a bicyclist or pedestrian hit by a motor vehicle. *Poisonings* include unintentional poisoning by drugs, medicinal substances, biologicals, solids, liquids, gases, and vapors; unintentional drug and alcohol overdoses are included in this category. *Unintentional injuries* include those described as "accidental" regardless of whether the injury was inflicted by oneself or another person. These data do not include individuals who sustain injuries but do not seek medical attention. County data is by residence of decedent and not by location of death. To comply with Wisconsin vital records data privacy guidelines, data are suppressed if rates are based on fewer than five deaths.

Oral Health

It is important to note that survey results on dental visits are self-reported and subject to recall and/or reporting bias. Over-reporting of dental visits is known to occur. For example, among BRFS respondents who are enrolled in Medicaid, the percentages who report dental visits are much higher than utilization rates based on Medicaid claims data.

Reproductive and Sexual Health

Chlamydia is a sexually transmitted disease (STD) caused by a bacterium called *Chlamydia trachomatis*. Although chlamydia can easily be screened for and cured with antibiotics, the majority of persons infected do not experience symptoms and are unaware of an infection. If left untreated, chlamydia can cause pelvic inflammatory disease (PID) in women, which may result in chronic pelvic pain, infertility, and ectopic pregnancies (a life-threatening condition in which a fertilized egg grows outside the uterus). In rare cases, chlamydia infection may lead to sterility among men.[10,11]

Gonorrhea is an STD caused by a bacterium called *Neisseria gonorrhoeae.* One-third of men and two-thirds of women who are infected with gonorrhea do not experience symptoms. Untreated gonorrhea can cause serious and permanent health problems in both women and men. Gonorrhea is a major cause of PID in women, which may result in chronic pelvic pain, infertility, and ectopic pregnancies (a life-threatening condition in which a fertilized egg grows outside the uterus). In men, gonorrhea can cause a painful condition called epididymitis in the tubes attached to the testicles, and in rare cases can cause sterility. Untreated gonorrhea can also spread to the blood or joints, a potentially life-threatening condition.[12,13]

Syphilis is an STD caused by a bacterium called *Treponema pallidum.* If left untreated, syphilis can result in destructive lesions in the skin, bones, brain, or internal organs and damage to one or more organ systems in the body, including the brain and nervous system and the heart and circulatory system. Syphilis prevention remains an important objective because of the serious consequences of untreated or inadequately treated syphilis and its role as a potential risk factor for HIV infection and transmission.[7]

For more information on STDs:

- Wisconsin Department of Health Services: Chlamydia Fact Sheet. http://www.dhs.wisconsin.gov/publications/p4/p42036.pdf
- CDC: Chlamydia - CDC Fact Sheet. http://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm
- Wisconsin Department of Health Services: Gonorrhea Fact Sheet. http://www.dhs.wisconsin.gov/publications/p4/p42048.pdf
- CDC: Gonorrhea - CDC Fact Sheet. http://www.cdc.gov/std/gonorrhea/STDFact-gonorrhea.htm
- Wisconsin DHS: Syphilis Fact Sheet. http://www.dhs.wisconsin.gov/publications/p4/p42095.pdf